

Listing of Claims:

1-10. (Canceled).

11. (Currently Amended) A connecting element for weight measurement in a vehicle seat, comprising:

a connecting arrangement to a single-wire bus; and

a bus communications arrangement including a toroidal core store where measured values are stored consecutively and that stores a measured value for the weight measurement.

12. (Previously Presented) The connecting element as recited in Claim 11, wherein the connecting arrangement is configured so that the connecting arrangement indicates an installation position of the connecting element using hardware coding.

13. (Previously Presented) The connecting element as recited in Claim 12, wherein the connecting arrangement includes:

a voltage connection;

a data communications connection;

a ground connection; and

a configuration connection, a wiring configuration of the configuration connection indicating the installation position.

14. (Previously Presented) The connecting element as recited in Claim 11, wherein the connecting element includes an indicator to retrieve the measured value.

15. (Previously Presented) The connecting element as recited in Claim 11, further comprising:

a memory storing a serial number that characterizes the connecting element.

16. (Previously Presented) The connecting element as recited in Claim 11, wherein the connecting element is configured as a slave to the bus communications.

17. (Previously Presented) A method for bus communications between a control unit for activating a personal protective device as a master, and at least one connecting element for weight measurement in a vehicle seat as a slave, comprising:

causing the control unit to assign to the at least one connecting element a respective address in accordance with a respective serial number of the at least one connecting element;

sending the at least one connecting element a request message from the control unit; and

transmitting from the connecting element a measured value to the control unit as a function of the request message.

18. (Canceled).

19. (Previously Presented) A bus system, comprising:

a control unit for activating a personal protective device as a master;

at least two connecting elements configured for weight measurement in a vehicle seat as slaves that record weight measurement related data as directed by the control unit; and

a bus system having a single-wire bus.

20. (Previously Presented) The bus system as recited in Claim 19, wherein the at least two connecting elements include four connecting elements installed in the vehicle seat.

21. (New) The connecting element as recited in Claim 11, wherein a sampling frame is sent through the bus communications arrangement at specified intervals.

22. (New) The connecting element as recited in Claim 11, wherein the single-wire bus is a LIN bus.

23. (New) The connecting element as recited in Claim 11, wherein the toroidal core store stores more than one measured value for the weight measurement of each conducting element and is able to store a replacement weight measurement for each conducting element in the event of a transmission error.

24. (New) The connecting element as recited in Claim 11, wherein the toroidal core store is a ring buffer store.

25. (New) The method as recited in Claim 17, wherein the control unit assigns the respective address to the connecting element by polling for serial number runs.

26. (New) The method as recited in Claim 17, wherein the control unit assigns the respective address to the connecting element by transmitting the respective serial number of the connecting element, after which the control unit transmits the respective address to the connecting element and the connecting element stores the respective address and switches to a normal operating mode.

27. (New) The method as recited in Claim 26, wherein the assignment of the respective address to the connecting element occurs in part through hardwire coding.

28. (New) A method for assigning a respective address to a connecting element based on a unique serial number in a bus communications system, comprising:

(a) sending at least one bit of a potential serial number across a communications system to all connecting elements, each of a subset of the connecting elements having a respective serial number that includes a portion that matches the at least one bit of the potential serial number;

(b) responding to the at least one bit selectively by the subset, others of the connecting elements not responding;

(c) repeating steps (a) and (b), wherein:

for each repeated step (a), the at least one but includes a range of bits narrower than or alternate to the at least one bit that was sent in the immediately preceding step (a), the subset of the connecting elements being different for different ones of the repeated steps (b); and

the repetition of steps (a) and (b) is performed until the subset of the last performed step (b) includes only one of the connecting elements; and

(d) assigning the one of the connecting elements an address based on the at least one bit sent in the last repetition of step (a) performed in step (c).

29. (New) The method as recited in Claim 28, wherein steps (a) to (c) are repeated until all connecting elements have been assigned addresses or until all potential serial numbers have been sent out.

30. (New) The bus system as recited in Claim 19, wherein the control unit directs the recording of weight measurement related data by sending a sampling frame at specified intervals.

31. (New) The bus system as recited in Claim 30, wherein the control unit reads the data recorded by at least one connecting element in between the specified intervals.

32. (New) The bus system as recited in Claim 31, wherein the control unit only reads the data recorded by the connecting element since the prior reading of data from that connecting element.